

# 11.—Murchisonia, a new monotypic genus of Liliaceae from Western Australia

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## Abstract

A monotypic new genus *Murchisonia fragrans* Brittan (Liliaceae) having affinities with *Thysanotus* R.Br. and *Bottionea* Colla is described and illustrated.

## Introduction

Specimens of a liliaceous plant were collected by the author from a locality in the Murchison District, Western Australia, in October 1968 and again in August 1970. On the first occasion all plants were in fruit, although there was one partly open flower; on the second occasion adequate flowering material was obtained.

The specimens, in common with *Thysanotus* R.Br. and *Bottionea* Colla, are distinguished from other liliaceous genera by the presence of fimbriate inner-perianth segments. The fimbriae appear not to be as numerous or as well developed as in *Thysanotus*. Fresh flowering material of *Bottionea*, a Chilean genus, has not been seen by the author, but illustrations show a well developed "fringe" (Colla 1834, Curtis 1831, Lindley 1832).

The flower differs from both *Thysanotus* and *Bottionea* in possessing a markedly urceolate base resulting from the adnation of the bases of the two series of perianth segments (Fig. 1c, d) as reported by Baker (1876) for *Asphodelus* and *Asphodeline*. These latter two genera, however, possess 1-nerved perianth segments and distinctive funnel- or bell-shaped flowers.

The stamens and style of the specimens are actinomorphic to very slightly declinately arranged (Fig. 1b) rather than markedly declinately as in *Thysanotus*. The specimens have basifixed anthers equal in length to the filaments, whereas in *Bottionea* the anthers are approximately one quarter of the length of the filaments. With regard to the mode of attachment of the anthers of *Bottionea* there are conflicting statements. Bentham and Hooker (1883) state that the anthers are dorsifixed. Hutchinson (1959) uses "anthers basifixed or nearly so, not versatile" as a positive lead in the key to the genus, whereas Baker (1876) states that the anthers are versatile. Colla (1834) in the original description makes no reference to this character.

At the time of dehiscence the anthers of both the Murchison specimens and *Thysanotus* are two-loculate as a result of the breakdown of internal septa. In *Thysanotus* the inner pair of the four original loculi are shorter than the

outer pair and this character is visible in the mature anther. This is not the case in the Murchison specimens in which the loculi are all equal in length. The dehiscence is by longitudinal slits only, compared with *Thysanotus* where dehiscence takes place either by a terminal pore alone, or a terminal pore which later develops into slits.

In the articulation of the pedicel, the persistence of the perianth parts around the developing capsule, in the attitude of the leaves (Fig. 1a) (recalling particularly *T. scaber*), in the capsule slightly longer than broad (Fig. 1f) and in the seeds which are shiny black and arillate, the specimens approach *Thysanotus*. They agree with the majority of *Thysanotus* species in possessing six ovules, whereas *Bottionea* is reported as having a large number of ovules and a capsule much longer than broad.

In the author's opinion the specimens cannot be referred either to *Thysanotus* or *Bottionea* or any other liliaceous genus. It is therefore proposed to establish a new genus *Murchisonia*, family Liliaceae, Juss; subfamily Asphodeloideae Vent.; tribe Asphodelae Koch; subtribe Anthericeinae Engl. (Krause 1930).

## *Murchisonia fragrans* gen. et sp. nov.

Herba perennis; rhizoma parvum. Tubera cylindrica 3-10 cm longa in radicibus fibrosis 12-18 cm longis. Folia 6-16, inclinata unilateralia, linearia plus minusve teretia, 30-33 cm longa 1-2 mm lata, basin versus canaliculata, basi in vaginis membranaceo-marginatas expansa, ab vaginis membranaceis ad 8 mm latis sine laminis obtectas. Scapus procumbens, 12-14 cm longus, simplex, in spicam laxam umbellis paucis multifloris terminans. Bracteae umbellarum membranaceae, lanceolatae, 3-5 mm longae. Pedicelli 10 mm longi, circa 4-5 mm supra basin articulati. Flores viridi-albi, 16-18 mm dia., odorem subtilem persistentem exhalantes. Tepala 6, biseriata, basi adnata urceolata. Tepala exteriora lanceolata, 5-nervata, 2.5 mm lata, anguste membranaceo-marginata, apicibus mucronatis. Tepala interiora lanceolata, 3-nervata, 3 mm lata, apices versus fimbriata. Stamina 6, simularia, erecta; filamenta complanata, 3 mm longa, libera, basi urceoli inserta. Antherae atro-purpureae, 3 mm longae, lanceolatae, basifixae; loculi basi breviter divergentes, rimis introrsim dehiscentes. Ovarium sessile, sub-cylindricum, triloculare, utroque loculo ovulis 2. Stylus terminalis, erectus, strictus. Capsula cylindrica, 5 mm longa, 3 mm lata, ab perianthio persistente inclusa, loculicide dehiscentis. Semina nigra, arillata, angulata, ca. 1.5 mm dia.

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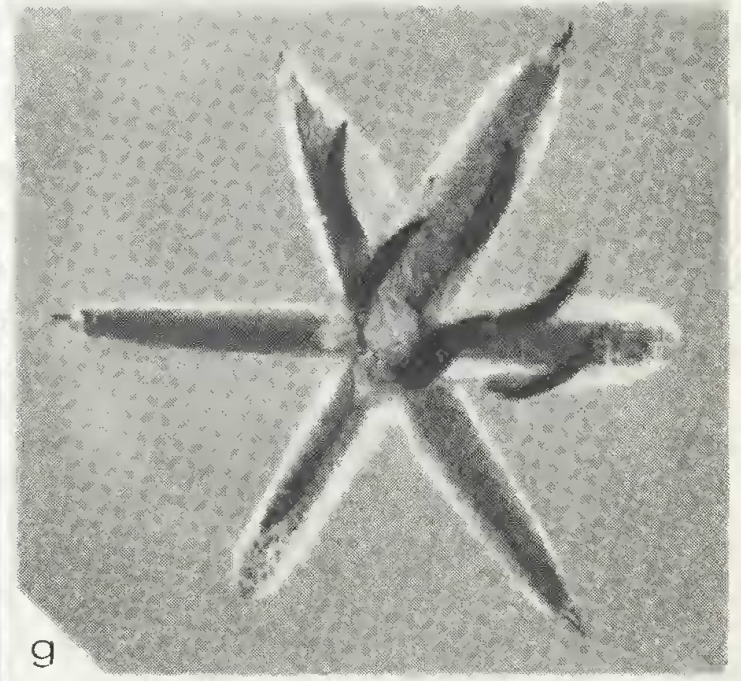
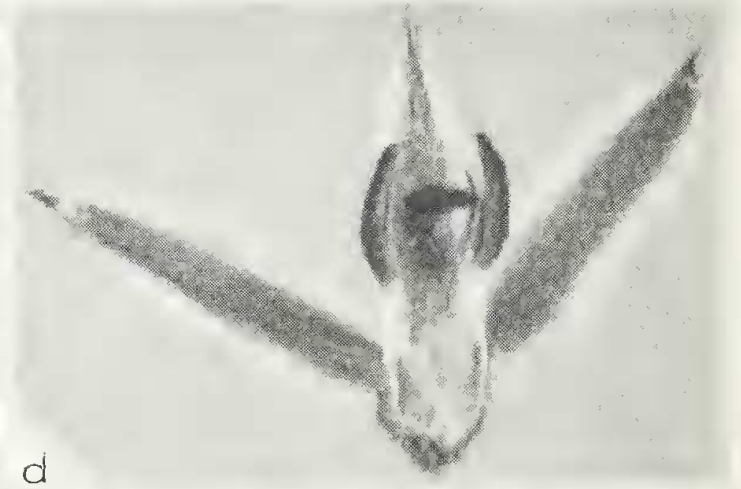
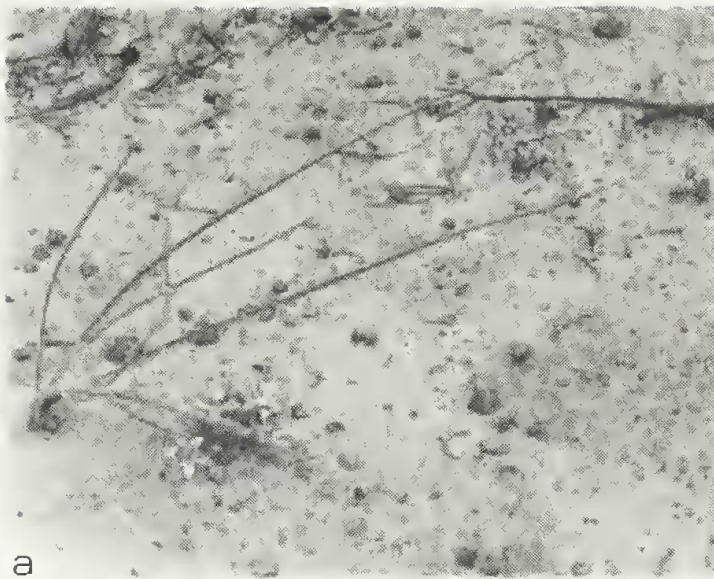


Figure 1.—*Murchisonia fragrans* N. H. Brittan. a. Habitat of Plant. b. Inflorescence (ca. x 1.5). c. Pressed half-flower showing adnation of tepals to form urceolate base. Note membranous edges to outer tepals and mucronate apices (x 5). d. Pressed half-flower showing insertion of anther filaments at base of urceolus. Note fimbriae of inner tepal (x 5). e. Inflorescence axis after flowers have fallen showing sessile umbels with bracts (x 3). f. Half capsule with two seeds in loculus (x 3). g. Pressed flower showing fimbriae of inner tepals inrolled on drying. Note flattened anther filaments (x 4).



Figure 2.—*Murchisonia fragrans* N.H. Brittan. Paratype—near 390 mile peg North-West Coastal Highway (ca. 45 miles north of Northampton, Western Australia), Brittan, 68/22. 22. x. 1968. (x 0.5)



*Holotypus*: near 390 mile peg. North-West Coastal Highway, in gravelly sand, *Brittan* 70/11, 25 viii, 1970 (UWA).

*Paratypus*: *ibid.* *Brittan* 68/22, 22 x 1968 (K).

Perennial herb; rhizome small; numerous fibrous roots becoming expanded at 12-18 cm from rhizome into cylindrical tubers 3-10 cm long. Leaves 6-16 linear, terete 30-33 cm long, 1-2 mm wide, channeled at the base, expanded below into membranous-margined sheaths surrounded by membranous leaf sheaths 8 mm wide without laminas. Leaves inclined to one side. Scapes 12-14 cm long, unbranched, procumbent, bearing a lax spike of few many-flowered umbels. Umbel bracts membranous, lanceolate, 3-5 mm long. Pedicels 10 mm long, articulated 4-5 mm from base. Flowers greenish white, 16-18 mm dia. with delicate persistent perfume. Tepals 6 in two series, adnate at base forming an urceolus. Outer tepals lanceolate, 5-nerved, 2.5 mm wide, with narrow membranous margins; apex mucronate. Inner tepals lanceolate, 3-nerved, 3 mm wide, with wider membranous margins, loosely fringed towards apex. Stamens 6, similar, erect; filaments flattened, 3 mm long, free, inserted at the base of the urceolus. Anthers dark purple, 3 mm long, lanceolate, basifixed, loculi diverging shortly at

base, dehiscing by slits introrsely. Ovary sessile, subcylindrical, trilocular with 2 ovules in each loculus. Style terminal, erect, straight. Capsule cylindrical, 5 mm long, 3 mm wide, included in the persistent perianth, dehiscing loculicidally. Seeds black, arillate, angular, ca. 1.5 mm dia.

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